

## ABSTRACT

An integrated circuit current sensor includes a lead frame having at least two leads coupled to provide a current conductor portion, and substrate having a first surface in which is disposed one or more magnetic field transducers, with the first surface being proximate the current conductor portion and a second surface distal from the current conductor portion. In one particular embodiment, the substrate is disposed having the first surface of the substrate above the current conductor portion and the second surface of the substrate above the first surface. In this particular embodiment, the substrate is oriented upside-down in the integrated circuit relative to a conventional orientation. With this arrangement, a current sensor is provided for which the one or more magnetic field transducers are very close to the current conductor portion, resulting in a current sensor having improved sensitivity.